

WEST[Help](#)[Logout](#)[Interrupt](#)[Main Menu](#)[Search Form](#)[Posting Counts](#)[Show S Numbers](#)[Edit S Numbers](#)[Preferences](#)[Cases](#)**Search Results -**

Terms	Documents
accounts near receivable and subsidiary near ledger	3

Database:

US Patents Full-Text Database
US Pre-Grant Publication Full-Text Database
JPO Abstracts Database
EPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Search:

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Set Name Query

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result set

DB=USPT,PGPB,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=OR

<u>L23</u>	accounts near receivable and subsidiary near ledger	3	<u>L23</u>
<u>L22</u>	L20 and positive same balance	86	<u>L22</u>
<u>L21</u>	L19 and (firm or agency)	0	<u>L21</u>
<u>L20</u>	L18 and (firm or agency)	8228	<u>L20</u>
<u>L19</u>	L16 and (organization organisation)	2	<u>L19</u>
<u>L18</u>	L16 and organization organisation	110216	<u>L18</u>
<u>L17</u>	L16 and organization	2	<u>L17</u>
<u>L16</u>	L15 and positive same balance	2	<u>L16</u>
<u>L15</u>	accounting near computer near system	69	<u>L15</u>
<u>L14</u>	bill near payment near system.ti.clms.	37	<u>L14</u>
<u>L13</u>	bill near payment near system	157	<u>L13</u>
<u>L12</u>	accounting adj spreadsheet	30	<u>L12</u>
<u>L11</u>	accounting adj spreadsheet and invoicing	0	<u>L11</u>

DB=EPAB,DWPI,TDBD; PLUR=YES; OP=OR

<u>L10</u>	(accounting near system or invoicing near system or bill near paying near system)	685	<u>L10</u>
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DB=USPT,PGPB,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=OR

<u>L9</u>	accounting near system and positive same balance	59	<u>L9</u>
<u>L8</u>	L2 and positive same balance	0	<u>L8</u>

DB=JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=OR

<u>L7</u>	L2 and positive same balance	0	<u>L7</u>
<u>L6</u>	L2 and positive near3 balance	0	<u>L6</u>
<u>L5</u>	l2 and firm	13	<u>L5</u>
<u>L4</u>	l2 and law same firm	0	<u>L4</u>
<u>L3</u>	L2 and (law near firm or legal near firm or legal near agency)	0	<u>L3</u>
<u>L2</u>	(accounting near system or invoicing near system or bill near paying near system)	945	<u>L2</u>
<u>L1</u>	law near firm and (account\$ same system or electronic same invoice or bill\$ same system)	5	<u>L1</u>

END OF SEARCH HISTORY

WEST[Generate Collection](#)[Print](#)**Search Results - Record(s) 1 through 3 of 3 returned.**☐ 1. Document ID: US 5875435 A

L23: Entry 1 of 3

File: USPT

Feb 23, 1999

US-PAT-NO: 5875435

DOCUMENT-IDENTIFIER: US 5875435 A

TITLE: Automated accounting system

DATE-ISSUED: February 23, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Brown; Gordon T.	Pittsburgh	PA	15241	

US-CL-CURRENT: 705/30; 705/33, 705/39

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMIC	Draw Desc	Image
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☐ 2. Document ID: US 5202984 A

L23: Entry 2 of 3

File: USPT

Apr 13, 1993

US-PAT-NO: 5202984

DOCUMENT-IDENTIFIER: US 5202984 A

TITLE: Apparatus and method for updating transaction file

DATE-ISSUED: April 13, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kashio; Toshio	Tokyo			JP

US-CL-CURRENT: 707/200

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMIC	Draw Desc	Image
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☐ 3. Document ID: US 5117356 A

L23: Entry 3 of 3

File: USPT

May 26, 1992

US-PAT-NO: 5117356

DOCUMENT-IDENTIFIER: US 5117356 A

TITLE: Automated ledger account maintenance system

DATE-ISSUED: May 26, 1992

INVENTOR - INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Marks; Ronald	Philadelphia	PA		

US-CL-CURRENT: 705/30

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc	Image
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Terms	Documents
accounts near receivable and subsidiary near ledger	3

Display Format:

-

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WEST

Generate Collection

Print

L22: Entry 72 of 86

File: USPT

Nov 29, 1994

DOCUMENT-IDENTIFIER: US 5369570 A

TITLE: Method and system for continuous integrated resource management

Detailed Description Text (35):

In a preferred embodiment has carefully considered between the interaction between schedule data organization and the methods used to manipulate those schedules. These methods are described fully within the resource engine main part described herein, specifically the method for balancing of supply and demand.

Detailed Description Text (37):

FIG. 3 illustrates a schedule for events without rates (typically materials) numerically and graphically. In a preferred embodiment all resources are represented by a single data definition and evaluated by a single process. FIG. 3 provides an example of material resource representation in table 301, and continuous time graph 302. A single table 301 contains data describing all events on the time horizon. An event is some action that changes the resource amount at a specific point in time called TIME-1 303. Events are always ordered in ascending TIME-1 303 sequence. If the event is not instantaneous then TIME-2 304 specifies when the event actually started. The difference between the two times is the duration of the event and is calculated as required. The event type 305 determines if the amount 306 of the event will have a positive (supply) or negative (demand) impact on the balance 307 of resource remaining. For supply events type 305 determines if the method for balancing supply and demand is allowed to change timing and amount. For demand events type 305 describes if the demand is anticipated or real, dependent or independent.

Detailed Description Text (38):

Events shown graphically on the time line are described as an up (supply) or down (demand) arrow, and as a box 309 whose dimensions correspond to duration and rate. The line graph 308 is the amount of resource as a function of time referred to as the balance 307. Ideally, all supply events align perfectly with demands in both time and amount. Under these circumstances the line 308 would be a straight line at zero. As shown in 310 there is usually some time difference, either positive or negative, that results in a temporary positive or negative balance. A positive balance is commonly referred to as excess and negative as shortage.

Detailed Description Text (42):

A comparison of TIME-1 and TIME-2 identifies when an event expresses a rate or an absolute amount. The event and resource types allow for all possible combinations of positive and negative impacts and persistence in determining the balance. An minimum number of variables and parameters are used in conjunction with simple logic to produce schedules that accurately represent realistic schedules for a multitude of resources.

Detailed Description Text (78):

(b) Rules 803 include a calendar identification (CID), safety stock (buffer), minimum, maximum, and multiple amounts, fixed lead-time, firm interval, prior interval, and after interval. Prior interval determines when prior notices (output primitive) will be issued, while after interval determines when late notices will be issued. When multiple rules are defined each rule applies to a non-overlapping interval of the future time horizon. Each rule in succession defines the last point in time where the rule is applied, after which the next rule in succession is applied. The last rule, usually does not specify an end point. The capability of multiple rules by sections of the time horizon provides a mechanism for representing strategic, tactical, and operational schedules in a combined data set without

replication and summarization. The use and benefits of this capability are described elsewhere.

WEST**End of Result Set**☐ **Generate Collection** **Print**

L22: Entry 86 of 86

File: USPT

Jul 20, 1971

US-PAT-NO: 3594727

DOCUMENT-IDENTIFIER: US 3594727 A

TITLE: CREDIT CARD BANKING SYSTEM

DATE-ISSUED: July 20, 1971

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Braun; Edward L.	Los Angeles	CA	90025	

APPL-NO: 04/ 721681 [PALM]

DATE FILED: April 16, 1968

INT-CL: [] H04q 9/00

US-CL-ISSUED: 340/152

US-CL-CURRENT: 235/379; 235/380, 902/22, 902/27, 902/39, 902/5

FIELD-OF-SEARCH: 340/152, 179/2CA

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected**Search ALL**

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/>	<u>3184714</u>	May 1965	Brown, Jr. et al.	340/194A
<input type="checkbox"/>	<u>3308238</u>	March 1967	Brothman et al.	340/152
<input type="checkbox"/>	<u>3315230</u>	April 1967	Weingart	179/2CA
<input type="checkbox"/>	<u>3351919</u>	November 1967	Milford	179/2DP
<input type="checkbox"/>	<u>3407387</u>	October 1968	Looschen et al.	340/152

ART-UNIT: 234

PRIMARY-EXAMINER: Yusko; Donald J.

ABSTRACT:

A system is disclosed in which one or more central stations can communicate with peripheral stations as to information held or controlled by the central station for access by authorized users only. The central station verifies the existence of paired codes in a memory bank of the central station when set into a peripheral station, before permitting access. Specifically, accounts are kept secure in this manner, permitting reduction of credit balance or increase of debit balance only to

those in possession of the paired code associated with the account. Verification permits transfer of commodities or services at the location of the peripheral station with immediate updating of the centrally stored account balance. Various types of input and output devices as controlled by a peripheral station are disclosed.

25 Claims, 3 Drawing figures

WEST☐ **Generate Collection** **Print**

L9: Entry 54 of 59

File: USPT

Mar 3, 1992

US-PAT-NO: 5093787

DOCUMENT-IDENTIFIER: US 5093787 A

TITLE: Electronic checkbook with automatic reconciliation

DATE-ISSUED: March 3, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Simmons; John C.	Memphis	TN	38138	

APPL-NO: 07/ 564653 [PALM]

DATE FILED: August 6, 1990

PARENT-CASE:

This application is a continuation of application Ser. No. 872,971, filed June 12, 1986, now abandoned.

INT-CL: [05] G06F 15/30

US-CL-ISSUED: 364/406; 364/705.02, 364/408, 235/379

US-CL-CURRENT: 705/33; 235/379, 708/106

FIELD-OF-SEARCH: 364/705.02, 364/401, 364/406, 364/408, 235/379

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

☐ Search Selected☐ Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/>	<u>4321672</u>	March 1982	Braun et al.	364/408
<input type="checkbox"/>	<u>4348744</u>	September 1982	White	364/900
<input type="checkbox"/>	<u>4650981</u>	March 1987	Foletta	235/449
<input type="checkbox"/>	<u>4724527</u>	February 1988	Nishimura et al.	364/705.02
<input type="checkbox"/>	<u>4737911</u>	April 1988	Freeman	364/406

OTHER PUBLICATIONS

Kroenke, D. M., Database Processing: Fundamentals, Design, Implementation, Second Edition, Science Research Associates, Inc., Chicago, 1983, 415-425.
Gorman, M. M., Managing Database: Four Critical Factors, QED Information Sciences, Inc., Wellesley, Mass., 1984, 34, 35, 112, 113, 172-179.
"Madison National to Intro Integrated Banking System", Computer+Software News, vol. 2, No. 42, Oct. 15, 1984, 14.
The Smart Checkbook Software Manual, version 2, Softquest, Inc., 1983.
"Smart Checkbook", Softquest Inc. (Rosenberg Associates), Nov. 1982.
Kane, J. J. et al., "Automating Check Reconcilement with a Microcomputer", Journal of Cash Management, vol. 5, No. 6, Nov./Dec. 1985, 80-83.

Magid, L. J., "Software Speeds Banking-at-Home with Checkbook-Balancing Function", Washington Post, Nov. 7, 1988, Business section, p. 30.

ART-UNIT: 236

PRIMARY-EXAMINER: Jablon; Clark A.

ABSTRACT:

An apparatus for reconciling checking account and other transaction data including first and second data reconciliation control units, each including associated memory, data transference/communication channels for facilitating two-way data communication between the first and second data reconciliation control units, data comparison circuitry, data discrepancy identification circuitry, data editing circuitry and data display circuitry. Data stored in the first memory is compared with data stored in the second memory and discrepancies are identified and if desired the first data set is automatically revised to conform to the second data set. The system gives the user an authorized validation message when the account is reconciled. It also provides for pre-reconciliation error detecting and float projecting for estimating real balances based upon typical transaction clearing delays.

20 Claims, 26 Drawing figures

WEST

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L9: Entry 54 of 59

File: USPT

Mar 3, 1992

DOCUMENT-IDENTIFIER: US 5093787 A

TITLE: Electronic checkbook with automatic reconciliation

Brief Summary Text (3):

In addition to the above, Automatically Balanced checking may include point of sale data capture, self administered communications with the bank host, automatic transaction synchronization and synchronization correction at the transaction level along with a unique, functionally integrated host system. The system of the present invention produces a new kind of transaction accounting system that can also simplify and speed up the check register recording process, capture extended data for extended optional reporting, coordinate telephone bill payment, debit card, automatic teller machine and other transactions into one concise transaction accounting system with check payments and deposits. The present invention also eliminates the need for check return, bank fine sort or monthly mailed statements as well as perform automatic account balancing/reconciliation with both automatic and user directed error correction.

Detailed Description Text (4):

FIG. 2, step 18 determines whether or not there is enough memory for an additional transaction and, if not, prompts the user to balance with the bank (i.e., select the reconciliation option of FIG. 1, step 10 from FIG. 1, step 4) which will then, after transmitting stored data, leave more than adequate room for subsequent transactions. The user is advised well in advance after each check (FIG. 10, step 41), if he is beginning to run out of memory, to "balance with the bank--N transactions left" (where N is the number remaining possible transactions). Should FIG. 2, step 18 be negative, the transaction, time and date is displayed on the screen for the user until the keystroke is entered (FIG. 2, step 21). When Step 21 is positive, i.e., when the user's keystroke signals to proceed, the next check number to be written is calculated with reference to the last check written in memory, and the first check number entered in B14. Step 23 awaits the user's yes or no response and, should that response be negative, returns to the main menu function selection (FIG. A4).

Detailed Description Text (7):

Assuming a positive response to FIG. 2, step 23, the check register continues (in Step 24) to capture from its keyboard the user's check amount and payee/purpose information. Steps 25, 26, 27 and 29 sense, respectively: (i) access time elapsing (in which case the screen is turned off in 28, but the memory is preserved to protect the battery), (ii) a user command to exit with either a force key or a function key (in which case it's returned to FIGS. 1, step 4), (iii) data entry completion (in which case the time and date are matched to the check data in FIG. 2, step 30). Then, in Step 40, the revolving management system shown in FIG. 10 checks to see if the transaction memory available has reached the customer warning level referred to above. If that is the case, FIG. 10, step 41 notifies the customer and proceeds onto FIG. 10, step 42. FIG. 10, step 40 considers how much room is in memory to store live unreconciled transactions (including erasing the oldest transaction that has already been reconciled with the bank). Step 42 considers if there is any need to erase old reconciled data to make room for the new transaction. If there is unused memory, no automatic memory remapping is required. If there is no unused memory, then the oldest transaction is deleted to make room for the newest (FIG. 10, step 43) and all check memory is remapped (FIG. 10, step 44). If there had been no room for the transaction thus entered, the transaction would have already been terminated in FIG. 2, steps 18 and 19. As a result, a large number of previously unreconciled transactions can be stored along with a maximum number of reconciled transactions, allowing the user to scan back and look at his recent history well beyond his current transactions. In FIG. 10, step 47 the new

transaction (matched to the clock and calendar module data, payee and purpose information, as well as the date and check number), is stored in protected random access memory. Subsequent balance inquiries from the ECR keyboard (selected from FIG. 1, step 4) will then display the adjusted balance as described in FIG. 7.

Detailed Description Text (19):

The last possibility, that it has been reconciled but is no longer in memory, is sensed in FIG. 4, step 81 when the oldest record has been displayed and the user continues to scroll back in time. If this test is positive, it prompts the user to key in the date and amount of the transaction to void (from the outstanding transaction listing on his statement). (Because of the control heirarchy of the ABC architecture, if it were not outstanding would have already been corrected). Then, in FIG. 4, step 79, automatically creates the void transaction for the later auto-transmission at balancing, followed by automatic creation of the balance adjustment transaction for the electronic check register and internal balance in FIG. 4, step 80 as above. FIG. 4, step 82 senses when the most recent or last entry has been displayed by the scrolling loop, which occurs when the user returns back down from the older transaction to the most recent. When this is the case there is no need to modify the already correct transaction of the screen and the system simply waits for the next command (FIG. 4, step 73).

WEST☐ **Generate Collection** **Print**

L9: Entry 31 of 59

File: USPT

May 30, 2000

DOCUMENT-IDENTIFIER: US 6070150 A

TITLE: Electronic bill presentment and payment system

Brief Summary Text (6):

For convenience, the term "consumer" is used throughout to represent both a typical person consuming goods and services as well as a business consuming goods and services. FIG. 1 shows a traditional paper-based bill presentment and remittance system 20. At the end of a billing cycle, a biller 22 generates a bill 24 for each consumer account having a positive or negative account balance, or transactions in the billing cycle which yielded a zero balance. As used herein, a "biller" is any party that originates bills or statements for goods or services rendered to the consumer. Examples of billers are: utilities, government, merchants, and intermediate billing services such as banks.

Brief Summary Text (11):

A drawback to the paper-based system 20 is that it is out-dated in an age where most billers use automated, computer-based accounting systems and a growing number of consumers have computers which could be used to improve the bill delivery, remittance, and settlement process. It is an archaic process to require s billers to generate paper bills and remittance stubs from a computerized system, rely on the consumers to manually fill out remittance information and properly return the stubs, and then enter the hand written information from the remittance stubs into the computer system to continue tracking the account. The cost to process paper-based remittance information is very high and must be incurred by the biller. For large volume operations, the remittance processing tasks of opening envelopes, scanning the account number on the payment stub (e.g. bar coded number), and MICR (Magnetic Ink Character Recognition) encoding the check amount is automated. Large volume billers may have their own automated remittance processing operation, whereas smaller volume billers have the option of contracting with services to perform these duties or performing them manually.

Brief Summary Text (33):

Another design consideration for a bill presentment and payment system is that many billers already have established sophisticated, expensive accounting systems. It would be beneficial to devise a bill presentment and payment system that integrates smoothly with entrenched accounting systems so that companies are not required to change their traditional ways of practice.

Detailed Description Text (47):

With reference again to FIG. 4 and to step 162 in FIG. 5, the consumer computing unit 114 transmits the remittance information 130 directly back to the biller 112 via network 116 (as represented by arrow 134 in FIG. 4). The consumer computing unit 114 uses the biller's network address in address data field 204 of the data structure 190 to electronically route the payment remittance information 130 to the biller. Routing can be achieved in a variety of ways, including email, Internet URL addresses, and so forth. Since the payment remittance information was created by the biller in a particular format, and the consumer only filled in certain data fields, the payment remittance information 130 remains in the biller prescribed format for seamless integration to the biller's existing accounting system. Moreover, the payment remittance information is automatically returned to the biller without intervention by the consumer, except that the amount to be paid and the payment date are appended. The consumer may also attach any additional information, such as remittance advice notes, or text messages relating to disagreements with invoice information or disputes over specific charges, or change of address data, or any communication with customer service representatives at the biller.

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Generate Collection

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L9: Entry 37 of 59

File: USPT

Dec 29, 1998

DOCUMENT-IDENTIFIER: US 5854833 A
TITLE: Processing using DEF records

Detailed Description Text (760):

Pre-paid implies that services are paid for in advance. As the service is used, it is charged against the pre-paid account's positive balance.

Detailed Description Text (763):

Pre-paid cards allow callers to make long-distance calls or use enhanced services such as messaging, conference calling, speed dialing, or audiotext by charging the calls or services against a prepaid account's positive balance. Two basic types of cards are available--one that simply expires when its value is depleted, and one that is "rechargeable." The system has the ability to track calls in progress, interrupt calls to alert the caller of diminishing or remaining time or value, and allow callers to replenish the balance. The system also will provide a warning and terminate calls whose time or dollar value has been exhausted.

Detailed Description Text (810):

After the call is terminated, system accounting records must be updated. This process is now described. FIG. 204 is an operational flow diagram illustrating the process involved with updating the accounting records.

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L9: Entry 37 of 59

File: USPT

Dec 29, 1998

US-PAT-NO: 5854833

DOCUMENT-IDENTIFIER: US 5854833 A

TITLE: Processing using DEF records

DATE-ISSUED: December 29, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hogan; Steven J.	Cedar Rapids	IA		
Feltz; Kristi T.	Cedar Rapids	IA		
Murdock; Douglas R.	Cedar Rapids	IA		
Vercande; David J.	Cedar Rapids	IA		
Tangeman; Michael R.	Cedar Rapids	IA		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
LinkUSA Corporation	Cedar Rapids	IA			02

APPL-NO: 08/ 468412 [PALM]

DATE FILED: June 6, 1995

PARENT-CASE:

This application is a division of application Ser. No. 08/136,211, filed Oct. 15, 1993, U.S. Pat. No. 5,590,181.

INT-CL: [06] H04 M 15/20

US-CL-ISSUED: 378/112; 378/91, 378/267, 378/260, 379/112

US-CL-CURRENT: 379/114.14; 379/112.01, 379/114.15, 379/114.17, 379/114.19,
379/121.05, 379/260, 379/267, 379/91.01FIELD-OF-SEARCH: 379/112, 379/111, 379/114, 379/115, 379/116, 379/119, 379/121,
379/201, 379/220, 379/222, 379/223, 379/221, 379/218, 379/278, 379/260, 379/267,
379/91, 370/110.1, 370/68.1

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

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	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/>	<u>4232199</u>	November 1980	Boatwright et al.	179/18B
<input type="checkbox"/>	<u>4577061</u>	March 1986	Katzeff et al.	179/2AM
<input type="checkbox"/>	<u>4611096</u>	September 1986	Asmuth et al.	179/18B
<input type="checkbox"/>	<u>4625081</u>	November 1986	Lotito et al.	379/88
<input type="checkbox"/>	<u>4685127</u>	August 1987	Miller et al.	379/221
<input type="checkbox"/>	<u>4706275</u>	November 1987	Kamil	379/144
<input type="checkbox"/>	<u>4782519</u>	November 1988	Patel et al.	379/221
<input type="checkbox"/>	<u>4791640</u>	December 1988	Sand	370/58
<input type="checkbox"/>	<u>4893330</u>	January 1990	Franco	379/91
<input type="checkbox"/>	<u>5003584</u>	March 1991	Benyacar et al.	379/119
<input type="checkbox"/>	<u>5068891</u>	November 1991	Marshall	379/91
<input type="checkbox"/>	<u>5195086</u>	March 1993	Baumgartner et al.	370/62
<input type="checkbox"/>	<u>5210789</u>	May 1993	Jeffus et al.	379/223 X
<input type="checkbox"/>	<u>5222120</u>	June 1993	McLeod et al.	379/91
<input type="checkbox"/>	<u>5311572</u>	May 1994	Freides et al.	379/220 X
<input type="checkbox"/>	<u>5438615</u>	August 1995	Moen	379/112 X
<input type="checkbox"/>	<u>5448633</u>	September 1995	Jamaleddin et al.	379/112 X
<input type="checkbox"/>	<u>5452350</u>	September 1995	Reynolds et al.	379/220

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FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
WO 91/16779	October 1991	WO	

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Briere, The Secret To Success With Virtual Nets, Network World, Mar. 1992, pp. 1, 31, 41-43.
Joneleit, Signaling System 7 Rescues Antiquated Billing System, Telephony, Dec., 1991, pp. 32, 34, and 36.
Product Information Brochure: Summa Architec Series Portico (SDS Product Overview), Summa Four Inc., Mar. 1992, selected pages.
Product Information Brochure: The Open Architecture Network Interface, Profit From Open Architecture, SDS Series, Date Unknown.
Product Information Brochure: DMS-250 Operator Services, Northern Telecom, Sep., 1987.

ART-UNIT: 267

PRIMARY-EXAMINER: Chin; Wellington

ASSISTANT-EXAMINER: Loomis; Paul

ABSTRACT:

A system and method for processing telephone calls and providing enhanced services is presented. The call processing system includes a network control processor for controlling the processing and routing of the calls and for providing enhanced features, and a matrix switch for routing calls from an originating location to a terminating location. Operator consoles can be included to provide operator assistance to the caller. The network control processor comprises a central message

processor that receives call data, determines the type of call, determines the processing required, and determines whether operator assistance is required. A call route distributor allocates an operator console to the call if required. A billing server is used to track billing information for the call while it is in progress. A database server is provided for database look-ups and storage. The call processing system also includes a validation system, a billing system, a distribution system, and a fraud detection and prevention system. The validation system is used to validate call information to determine whether the call can be placed. The billing system determines rates for calls and calculates the cost of completed calls. The distribution system distributes charges that are made to a master database to the appropriate slave database. The fraud detection and prevention system monitors originating and in-process calls to detect and possibly prevent possible fraudulent uses of phone services and systems. A client interface is provided to facilitate communications among applications and DEF records are used to define specific call processing actions.

25 Claims, 210 Drawing figures